

London County Council.

REPORT OF THE EDUCATION COMMITTEE OF THE LONDON
COUNTY COUNCIL SUBMITTING A REPORT OF THE
COUNCIL'S OFFICERS ON BATHING ARRANGEMENTS IN
SCHOOLS IN GERMANY AND HOLLAND.

(Order of Council of 24th July, 1906.)



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REPORT OF THE EDUCATION COMMITTEE OF THE LONDON COUNTY COUNCIL SUBMITTING A REPORT OF THE COUNCIL'S OFFICERS ON BATHING ARRANGEMENTS IN SCHOOLS IN GERMANY AND HOLLAND.

DURING recent years public attention has been directed to matters affecting the health and physical condition of children educated in public elementary schools, and in legislation now before Parliament it is proposed that power should be given to local authorities to make arrangements in this direction.

The Council has, from the time it became the Local Education Authority, fully appreciated the importance of physical education as a part of the elementary course of instruction of school children, and in this connection has extended the scope of the swimming scheme drawn up by the late Authority.

Being of opinion that much useful information could be collected by means of a visit to Germany and Holland, we instructed the Council's officers to visit certain towns and to report the result of their observations. We now submit this report, which contains a quantity of valuable particulars in regard to the provision made in Germany and Holland for the bathing of school children by means of shower baths, which afford facilities not only for the cleansing but for the invigoration of the body.

No decision of any kind has, however, been arrived at by the Council or by the Committee on any of the varied and important questions raised in the reports, but, in view of the general interest taken in the question of physical education, the document is published and placed on sale for the information of the public.

A. J. SHEPHEARD,

Chairman of the Education Committee.

THE COUNTY HALL,

SPRING GARDENS,

18th July, 1906.



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BATHING ARRANGEMENTS IN SCHOOLS IN GERMANY AND HOLLAND.

The Medical Officer (Education) (Dr. James Kerr), and the Assistant Educational Adviser (Dr. F. Rose), were empowered by the Education Committee, on May 22nd, 1906, to make an inquiry into certain matters in German schools, including the school bathing arrangements.

The first eleven working days of June were spent abroad, and twelve different cities and some thirty-five schools were visited.

With the short time available it was necessary to concentrate attention on one subject, and this report therefore deals with the bathing arrangements in elementary schools.

School Baths general.—Every town visited had installations for bathing children at school; and it was stated that in Germany, wherever a permanent water service is available, even in quite small places of 3,000 or 4,000 inhabitants, such school bathing arrangements exist.

Bathing for cleansing purposes has been sharply discriminated from bathing and swimming as an educational, gymnastic, or recreative exercise. The form of school cleansing bath now universally adopted is the warm followed by a cold shower bath.

The actual form of bath used has passed through various stages of development, and by seeing so many school installations in such a short time the gradual development and simplification of the various details was made very evident.

Necessary arrangements.—The arrangements necessitate heating apparatus for the water, also washing and drying rooms or apparatus for bathing linen. The children require dressing rooms and bathrooms.

Heating Apparatus.—In some of the older schools gas heating arrangements, geysers, are used, but in all the recent schools cold water from the main is heated either by hot water supplied from a cistern or by steam. The mixture is usually made in a metal cylinder provided with a thermometer, and regulating taps controlled by the attendant with an eye on the thermometer enable him to graduate correctly the temperature of the water supplied for bathing. (See diagram 4).

The rule practically everywhere is to begin the bath at a temperature of 95 deg. Fahr.; then, after three or four minutes, gradually to reduce it so that it finishes about 65 deg. Fahr. In one school in Berlin, however, it was said that the temperature was never varied. Care is taken that the children do not contract a chill after bathing.

Towels.—In some towns nothing is provided, the children bring towels, soap, and bathing clothes themselves. In most places at least soap and towels are provided. At the Amsterdam Centre, with 40 bathing places, used by 22 schools, a stock of 3,000 towels has to be kept. The drying arrangements are very varied. At Amsterdam and Mannheim, the linen is sent to a public laundry. At Karlsruhe, in the older schools, the towels are dried over hot pipes; in newer ones, on racks in a mechanically ventilated room. At Munich a washing room, 21ft. by 10ft., and a drying room 21ft. by 18ft., are provided, but the washing room is scarcely required. In Berlin schools the children bring their own towels, and they are dried for them by hanging them in a whitewashed cellar which has rows of 16-inch wooden pegs, 4 inches apart, about 3 feet from the floor, but in newer schools, as at Cologne and Dusseldorf, regular drying ovens, with rolling carriers are provided as in modern laundries.

Dressing Rooms.—The dressing room is separated from the bath room. In many towns forms are simply arranged around and across the dressing rooms, with hooks on the walls or partitions. At Frankfurt some dressing partitions are added for the older girls. In Munich, in addition to varnished wooden partitions, canvas sheets are hung in front. At Berlin the dressing boxes are simply arranged around the walls. At Cologne they are in rows, and all face the same way so that no child sees another. The partitions, of painted wood, are 5 ft. 6 ins. high, and the boxes are 34 ins. deep and 30 ins. across. They are raised 2 ins. clear of the floor, and each box has a seat 17 ins. to 20 ins. high and 11 ins. to 13 ins. broad. In most places the child comes straight from the dressing room to the bath, but at Cologne there is a final unclothing in the first part of the bathing cell, and at Amsterdam the children lay their last garment on a form in front of the cell. These special arrangements for separate dressing and bathing have been devised in deference to Roman Catholic opinion. In several schools, without such special arrangements, the boys bathe, but the Catholic girls are withdrawn, and Jewesses only utilize the baths.

So long as sufficient arrangements provide against children interfering with each others' clothes, there is nothing to be gained by undue privacy, the children being free from feelings generally attributed to them. Outside Catholic districts most German schools, however, err in having insufficient separation of clothes in the dressing room, and, indeed, most boys, many of the smaller girls, and in Amsterdam even the older girls, bathe quite naked.

The dressing-room floors were plain or painted wood or blocks, some had dripping boards, where they were in concreted cellars, others coarse matting. The recent schools all have linoleum, which appears to be the most suitable.

The Bath Room.—The development of this has been from a dark and noisome concreted cellar to the beautiful marble-lined light and airy rooms of the Bavarian and other schools.

The original form, as in the older Mannheim schools, where baths have existed for nearly thirty

years, was a concreted cellar with overhead douches from large rose taps, and underneath each a shallow zinc tub, 7 ins. deep and about 5 ft. across, each taking three boys facing outwards. Somewhat similar arrangements were seen in the older Karlsruhe schools.

The next step was to abandon the tubs and substitute a sloped concrete floor, as in a school at Hanover. In this school, too, various angles and forms of turbine douches had been tried and abandoned for the simple overhead rose tap.

Then shallow troughs were formed in the concrete floor. At Wiesbaden and Karlsruhe there are two rows of four troughs about 40 ins. square and 6 ins. deep, each taking four boys. In Frankfort there are three or four long parallel troughs about 3 ft. by 15 ft., the bath taking sixty boys at once. The later Karlsruhe schools have a similar arrangement. It is used, too, in Berlin, but there the troughs are separated up into divisions by dangerous looking iron rails.

In the newer Frankfort schools six separate cells are added at one end of the room, a curtain, sliding on a brass rod, can be drawn across the front of each.

At Munich the bathrooms are about 30 ft. by 21 ft. with three parallel troughs, 3 ft. by 15 ft. and 12 ins. deep, and at the end of the room eight cells, with a continuous trough, the cells being 30 ins. wide, 40 ins. deep, with stone seats and marble divisions about $1\frac{1}{2}$ ins. thick and 5 ft. high. The floors are tiled, the sides of the troughs are sandstone, and the walls of the bath room are lined up to 5 ft. high with marble slabs a yard wide.

Instead of developing the bath as long troughs, in the newer Mannheim schools there is a single shallow and broad bath about 10 ft. by 12 ft. and 12 ins. deep. Similar arrangements exist at Nuremberg and at Halle. In the Halle schools a gutter about 14 ins. wide and the same in depth is constructed round the outer edge, and this is filled with warm water from a special pipe as a preliminary, so that the children can first soap and wash themselves, thirty children bathing at a time.

The separate cell arrangement has been fully worked out in some places, where a high percentage of the population are Roman Catholics, as at Cologne. Here a series of double cells is arranged, the outer cell being for final underclothing, the inner one with douche and trough for washing. These were originally formed of corrugated iron. They are now made on an iron framework, with iron netting, cemented over and set with white tiles. The whole system is objectionable, being costly and difficult to keep clean, and it is difficult to exercise supervision to the extent desirable during bathing.

The floors of the bathrooms in the older schools are concrete, with dripping boards around the bath troughs. In all schools of the last decade the floors are tiled, a small hexagonal red tile with 2-in. edge, or a very small rough white hexagonal tile, $\frac{1}{2}$ -in. edge being used. The so-called "wood-marble," and at Halle blocks of a comparatively warm artificial substance, "Torpit," in squares of about 15-in. edge are also used. The newer schools since 1900 are all made with terazza floors.

The sides of the troughs originally made of concrete are now always tiled white, the red or rough white hexagonal tiling being used for the standing surfaces. Some tinted green tiles are often used for decorative purposes.

The walls of the older bathing rooms are concrete or cement. Cement in the Amsterdam Centre has proved unsatisfactory, and is to be replaced by tiles. The newer schools are generally tiled white, with artistically coloured bands, to about 5 ft. high.

At Wuhlgarten Epileptic Institution a swimming bath had been utilised by conversion into a bathing place for 20 douches, boxes for dressing being arranged around on the floor level above.

For twenty years school cleansing baths have been an institution on the Continent. There is no doubt on the part of teachers or doctors as to the great benefits, both direct and indirect, which result from their use. There is immediate and noticeable improvement in the school air. German schools beat our schools generally, but are remarkable for the badness of their school air. The improvement in this, however, is remarked on by every one in the schools.

There is a noticeable improvement in the quality and cleanliness of the underclothing of the children, and improvement, too, in self-respect. All teachers speak of this. In England many children have clothing sewn on. The diminution of vermin is said to be also noticeable, absence of irritability and greater ability to do school work being claimed as a result of the weekly bath.

These developments in school bathing have been taking place during the past generation, and nothing has been heard of them in England till the question arose indirectly out of the "Cleansing Scheme" in London. It is so generally known and recognised abroad that even Germans have long ago ceased to write papers or hold discussions on so commonplace a proceeding as the school shower bath.

The size of the installation varies greatly, but it is usual for children to be taken in two batches hourly, some class work being done which admits of the classes being thus broken up. It is also usual to keep the children in the school buildings for three-quarters of an hour after the bath, and the difficulty of doing this is to be considered in relation to the centre system.

With voluntary bathing, by gentle pressure about 85 per cent. may be expected to bathe. Parents at first object from ignorance, but demonstration easily removes this.

At Mannheim a considerable amount is spent in notices to the parents and advertisements in the papers setting forth the various benefits to be derived from school baths. See page 17.

The older girls give up the baths in winter, and do not usually resume. Occasionally headache is complained of, but chiefly from remaining till the douche is too cold. Except on the part of Roman Catholic girls, where no facilities for separate bathing are provided, there are practically no objections in Germany or Holland.

The age at which baths begin varies greatly. The difficulty of dressing the younger children

causes them to be excluded. At Amsterdam they do not bathe children of 5 and 6, but in some towns even children up to 9 are excluded.

A useful school arrangement would be to have a dressing-room with places for 25 or 30 children, seven or eight being provided for in separate boxes. Soap, towels, and loin cloths should be provided, and a drying oven equal to 200 towels daily will be required. Older girls, who wished, might be allowed to make bathing gowns for themselves in school. Seven or eight bathing cells should be provided at one end of the room, with curtains, for the older girls. For the rest troughs should be provided, either a square with trench around, or long troughs which take up less room, about a yard across and a foot deep. The douche must be controlled by the attendant with a regulating mixer and thermometer, and, beginning about 95 deg. Fahr., allowed to gradually fall to 65 degrees in the course of ten or twelve minutes. The floor should be terazza, and the walls white tiled for at least five feet. Such a bathing-room to accommodate 25 children at a time, that is, 50 hourly, 100 in the forenoon and 50 in the afternoon, or 750 baths weekly, without any pressure, would represent the accommodation wanted for an ordinary large London school.

JAMES KERR,

Medical Officer (Education).

On behalf of the Assistant Educational Adviser I submit the above report.

WM. GARNETT,

Educational Adviser.

APPENDIX I.

Detailed notes of bath installations seen in various towns.

WIESBADEN.—Visited on May 30th. *Blucher School*, a large new school, of beautiful exterior, with pollarded trees in the playground. The interior highly finished, even the doors being decorated. The floors throughout oiled. Dual desks, three different sizes, in each room. Ventilation with hot air, moistened at inlet with sprays.

The School bath in basement; dressing room opens directly into bathroom. It is provided with forms and wooden partitions with pegs for clothes. Bathroom concrete, with two rows of four troughs about 4 feet side, dripping boards round and between troughs, which are 6 inches or 7 inches deep, and contain a board to stand on. Four boys are douched back to back in each trough. The attendant controls the water mixing apparatus in an adjoining room, and looks through a window into bathroom. Douche begins at about 95 deg. Fahr., and ends in summer about 75 deg. Fahr., in winter about 65 deg. Fahr. 32 boys bathe at once. Soap, brush, and a dry towel each is provided; they wear no bath clothes.

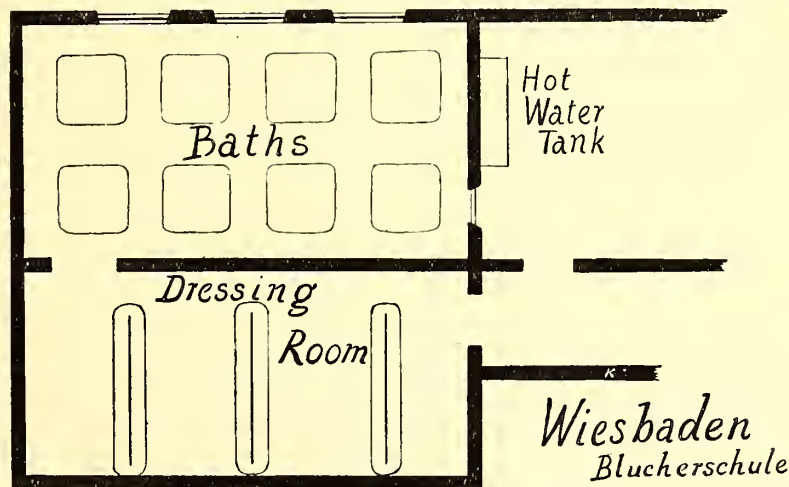


Fig. 1*

All the schools in Wiesbaden are provided with douche baths.

The girls wear caps and a loin cloth, the boys bathe naked. The two lowest classes are not bathed. The installation cost about £150 in this school.

As regards results Dr. Kuntz reports:—"In school bathing much depends upon the interest and energy displayed by the class teachers. The general results have been very satisfactory. All the class teachers and medical officers affirm that the appearance of the children is fresher and healthier, and that the air in the schoolrooms is greatly improved, especially in older schools, where the ventilation is less efficient than in the more modern ones. The condition of underlinen, stockings, &c., has improved to a remarkable extent. The children show a distinctly increased capacity and zest for learning after bathing. We have very little vermin in our schools, only

* NOTE.—The figures are not drawn to scale, but merely taken from notebook diagrams; dimensions where noted are recorded in the text.

about 1·8 per cent. Although this is due principally to our thorough system of school medical inspection, the baths have no doubt contributed in some degree to this result.

"I wish you could succeed in London in giving your school children the benefit and the enormous profit in health which regular shower baths afford."

This expression of opinion is valuable coming from Wiesbaden, the pioneer of the movement for thorough medical inspection of schools in Germany.

A *Girls' Elementary School* was also visited and a *Secondary Girls' School* (*Höhere Töchter Schule*)—this last being a magnificent building, beautifully finished and lavishly decorated, the entrance staircase producing a most pleasing effect.

FRANKFORT.—Visited on May 31st. *Karmeliter Schule*, with departments for boys and girls (1,200). The baths are in the basement. The children over 7 bathe. Soap is provided, but the children bring towels, &c., themselves. The dressing room has four large partitions, with rounded continuous seats and clothes pegs. The bathing room has tiles, with a fine pattern to roughen them, and has four parallel troughs, about 3 ft. by 14 ft., and about 12 in. or 14 in. deep. There is a small moveable hood, which can be arranged over the escape pipe so that the bath can be filled to about 6 in. or 7 in. with warm water. This is done, and the children soap and wash, and then are douched from three long parallel tubes over each bath. Daily average of 50 boys bathe.

Mechanically ventilated with fans.

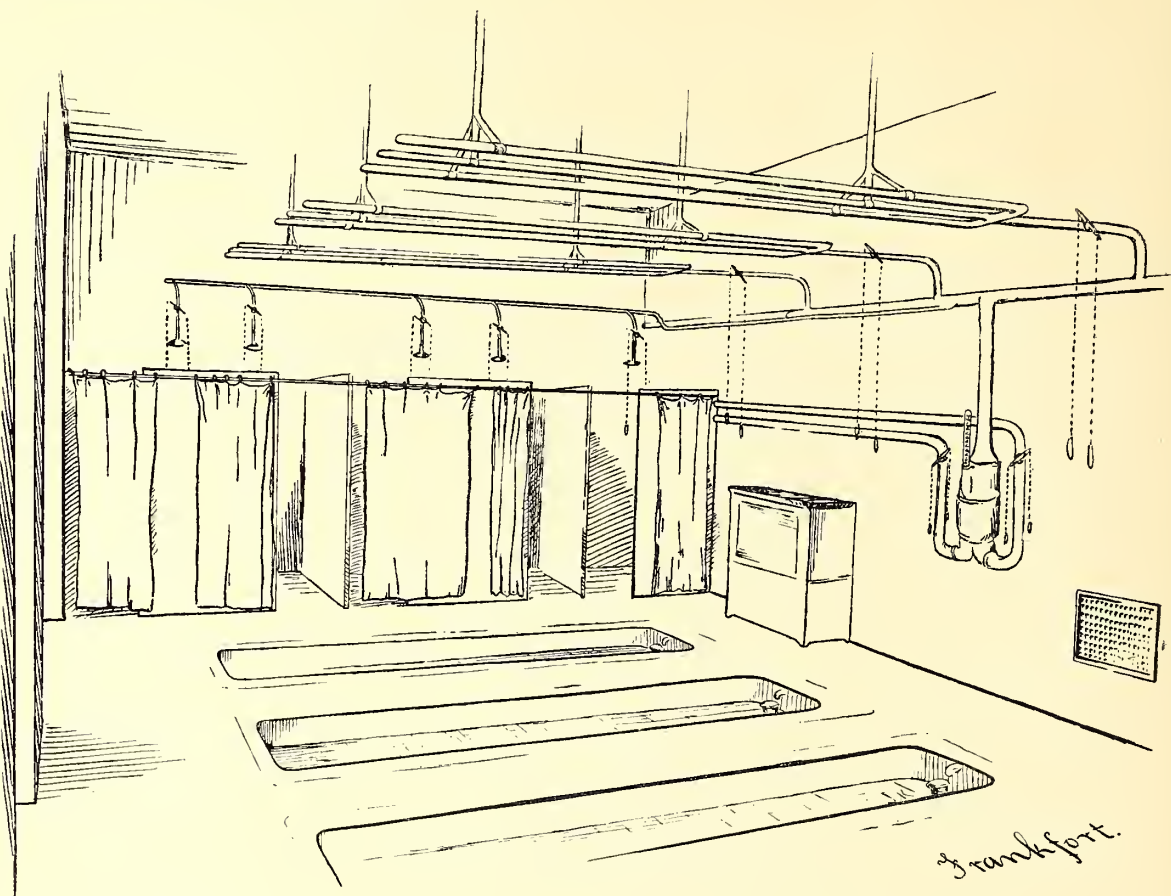


Fig. 2.

The "*Comenius*" School, in the north part of Frankfort, is a spacious and beautiful school, which cost £45,000. The boys' wing on one side, girls' on the other, and a large gymnasium between the two, all beautifully finished and decorated. The general arrangements of bath are as in last school, but at one side of the dressing-room half-a-dozen boxes are arranged for the older children, and one side of the bathroom has separate cells, each with a little trough. The partitions between these cells are about 2 in. thick, and we took them to be white enamelled iron to imitate tiling. The floor of the bathroom is white tiled. Each long trough has three tubes for douches over it, but the separate cells have a rose which the child can turn off or on by itself, pulling a chain.

The authorities state that "the appearance of the children is fresher and healthier; the school air has improved, greater attention is paid to cleanliness generally. Great improvement in the children's underclothing. The decrease in vermin is principally attributed to other measures. The baths have contributed in some degree to increased zest and capacity for work."

MANNHEIM.—Visited June 1st. *School K5* has departments for boys and girls, 3,000 children. The baths here were installed after the erection of the school. They are very old and primitive, but only cost £120 to £130. Soap, loin cloths, towels, and a small thick piece of scrubbing cloth about 6 in. square, are provided. Fifty per cent. of the children bath at home, and most of them

are Catholics, who object to the girls bathing in such baths. The bathing room consists of a basement with concrete floor on which six large zinc tubs about 5 ft. across and 7 in. or 8 in. deep stand, under large sprays. Three children stand back to back in each tub. Eighteen bathe at a time, only during school hours, and remain an hour in the building after the bath.

The floors are all oiled here throughout the school.

Wohlgelegen School.—A large, commodious, and beautiful school of recent date. Building cost £23,000. Has accommodation for 1,500 children in boys' and girls' departments.

Soap, towels, loin cloths, and scrubbing cloths are provided.

The douches begin at about 100 deg. Fahr., and are reduced to 70 deg. Fahr. Between 900 and 1,000 of the 1,500 children bathe regularly. The actual number depends greatly on the teachers. These have control of the children at the bath and the attendant. There are said to be practically no objections here, and the hygienic benefits the head master asserts to be very great. The bath here is a large trough about 12 ft. by 14 ft., and a foot deep, with rose jets above.

The German system of school shower bath seems to have originated in Mannheim thirty years ago. Twenty-four out of 27 Mannheim schools are now so provided.

The large number of rickety children was very noticeable in the streets of Mannheim, and was attributed by the school inspector to the excess of coffee, potatoes, and alcohol in the diet.

It is a most progressive town in educational matters, religious facilities being provided in the schools for all sects, including even Freethinkers, for whom ten special teachers were appointed last year.

KARLSRUHE.—*Lidell School*, 500, boys only, has an inscription "Erster Karlsruher Schulbad gestiftet von Stadtrat Karl Hoffman im Jahre 1886." It still has similar primitive zinc tubs to the early Mannheim schools. A geyser heating arrangement. Soap, towels, and loin cloths are provided. The rooms are in the basement and the dressing room consist of wooden partitions, dividing off from the douche room. Ten children at a time are douched—four sets hourly—in large elliptical zinc tubs about 4 ft. by 3 ft. and 15 ins. deep. The walls of the bathroom are tiled halfway up. The floor concrete, with dripping boards. Over 80 per cent. of the children bathe. The lowest class is excluded, and in very cold winter days bathing is stopped. Four hundred children a week bathe. Towels dried on hot pipes.

Carl Wilhelm School.—1,400 children. Exactly as in previous school, but two children go to each bath; about two-thirds of the children bathe, mostly the boys.

Schiller School.—1,300 boys and girls. A magnificent school, cost £23 per place. Bathing always, summer and winter, in the school hours only. Sixteen children bathe at a time; 200 daily, up to 1,000 a week. Soft soap, towels, and loin cloths provided, but about half provide these themselves. The lowest class is not bathed. "Crystal spring" drinking fountains in school corridors; tasteful decorations; beautiful gymnasium, with grand piano.

The bath room with two long parallel troughs and rose douches. No cells or boxes, only forms and hooks in clothing room. Drying room, with wood rails suspended for drying towels. A wooden partition across troughs divides off the end place of each.

The authorities state: "The school air has been greatly improved since the introduction of baths; zest and capacity for work have increased, verminous conditions have diminished, and the condition of the underclothing is much better. In many cases the cleanliness taught at school by bathing has caused improved sanitary conditions at home. Every modern school, without exception, should be provided with shower baths."

MUNICH.—The schools here were among the best we saw in Germany. Thirty-three have baths.

Wörth School (1890).—All school floors, linoleum; 2,000 children in school; 1,500 bathe. 60 children hourly; soap, dresses, towels, and caps provided; 200 daily, 8—11 a.m., and 2—4 p.m. The baths similar to Fluhr Strasse, but corrugated iron partitions.

Elizabeth Schule (1901).—1,200 children; over 900 bathe, 200 daily. Bath in basement, three long troughs of 1 by 4·5 metres, with eight divisions for older children, similar to next school in all respects.

Fluhr Strasse School.—A magnificent new school, opened last year; cost £35,000 without the site. Great difficulties, requiring much tact, to overcome parents' objections. No bathing in last half-hour of a school session. The winter diminution in bathing is about 15 per cent. All above six years old bathe, 80 per cent. of all. The teacher controls everything. The bath attendant, a woman, understands the working of the machinery.

There is a separate drying room and attendant's room. The dressing-room has 44 boxes, 6 ft high, 3 ft. deep, and 28 ins. broad, the seat is 17 ins. high and 13 ins. wide, and the partitions are some two or three inches clear from the floor. A small tie board runs across the top and a coarse canvas curtain hangs in front sliding on this. The partitions are varnished wood, floor painted, passages 6 ft. which have coarse matting laid down them. The bathroom floor has small red hexagonal tiles of 2-in. inside, and the bottoms of the troughs are so tiled. Sides of troughs are sandstone; troughs 3 ft. wide, 1 ft. deep and 14 ft. long. At one end of the bathroom are eight douching cells, these are over a common trough. They are each 30 ins. wide, 40 ins. deep, and 6 ft. high, the divisions being marble slabs 1½ ins. thick, the walls of the bathroom being formed by marble slabs 6 ft. high and 40 ins. wide. Each cell has a stone seat and a rose douche over it. A

canvas curtain can be drawn across the front on a brass rod which also serves to give support and rigidity to the marble partitions.

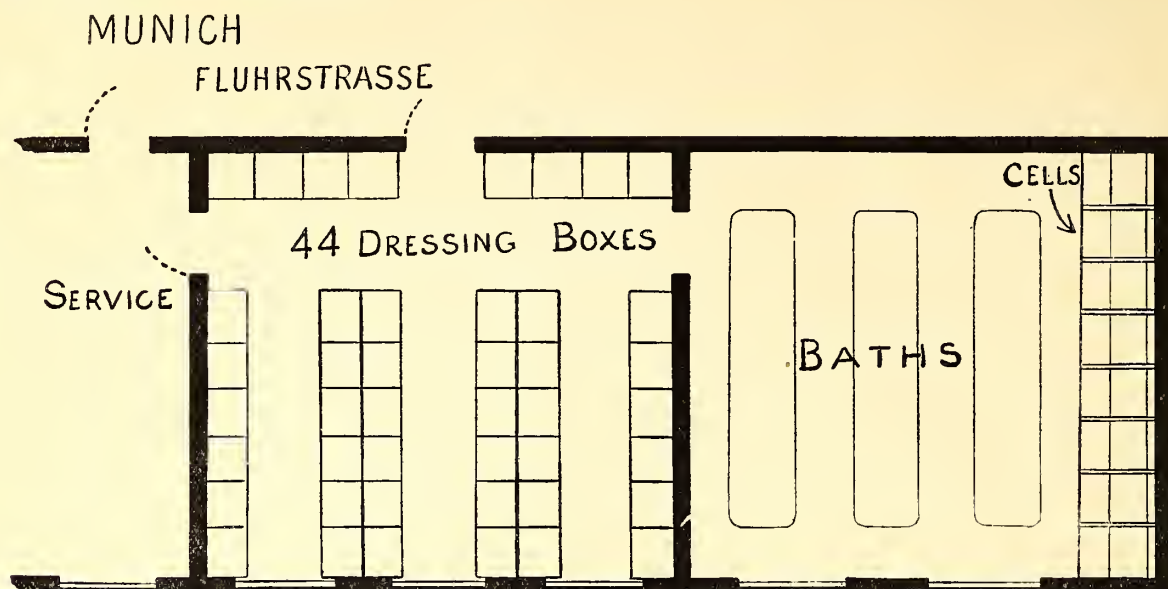


Fig. 3.

All children from six years old bathe; 80 per cent. of the children regularly. Soap and towels provided, loin cloths for the boys, the girls having a sleeveless gown of white and blue striped cotton.

The results are as favourable here as elsewhere.

NUREMBERG.—Visited June 12th. Nineteen out of sixty-eight elementary schools are provided with shower baths.

The Melanchthon and Bismarck schools are both new schools, the former having been built in 1900 and the latter in 1904, the attendance in each case being about 1,800.

The shower baths at the Bismarck school are of the most modern description. They are situated in a semi-basement, are large, commodious, and splendidly lighted. The douching room is provided with white glazed tiles, and green glazed tiles are used to decorate the bathing trough, which is 19 ft. by 7½ ft.

The installation at the Melanchthon School is similar, with the difference that marble douching cells are provided for older girls. In both schools the drying apparatus for bathing linen is of modern laundry pattern.

The Bismarck School is, perhaps, the finest of the large number of fine schools visited in Germany. It is situated on the limit of the town amongst a labouring population and directly facing the open country, and was erected at a cost of £26 10s. per place.

All the passage and staircase walls are white or grey tiled. The gymnasium is 18 ft. high, lighted like a studio, with pillars and balustrades of polished limestone marble. The interior decorations are simple and chaste.

The authorities say that the outward appearance of the children has been much fresher and their health better since the introduction of shower baths; that the condition of their underlinen has improved. They were also of opinion that their capacity for work had improved, although they were not able to adduce proofs to support this. Systematic observations are being made for the purpose of investigating whether verminous conditions have decreased. 400,000 baths were given in 1905, an increase of 47,500 compared with the previous year. Number of children who bathe 50-80 per cent.

HALLE A.D. SAALE.—*Thor Strasse School*.—Built four years ago, is a beautiful school architecturally, for about 600 children in two departments.

This school has all the floors linoleum covered, even in the corridors. The gymnasium is large and beautifully finished and decorated.

The bath is in the basement, but well lighted. Thirty to 35 children bathe at a time, beginning at 8 a.m.; 100 bathe in the forenoon and 60 in the afternoon. The regulations say twelve minutes to be allowed in the water. Soap, towels, and bathing cloths are provided. No children being excluded, except under the doctor's order.

The dressing-room has no special arrangements, forms and hooks around the walls. The bath-room is white tiled, with the floors made of an artificial material in about 15 in. squares, "Torpit." The bath trough is a rectangular 12 by 14 ft., with a deep gutter 13 or 14 in. wide, and the outer edge 14 in. deep, the inner only 7 in., as the square in the middle is sloped and

covered with red tiles. This trough can be filled from beneath with water at 100 deg. Fahr., and the children soap and wash themselves before using the douche.

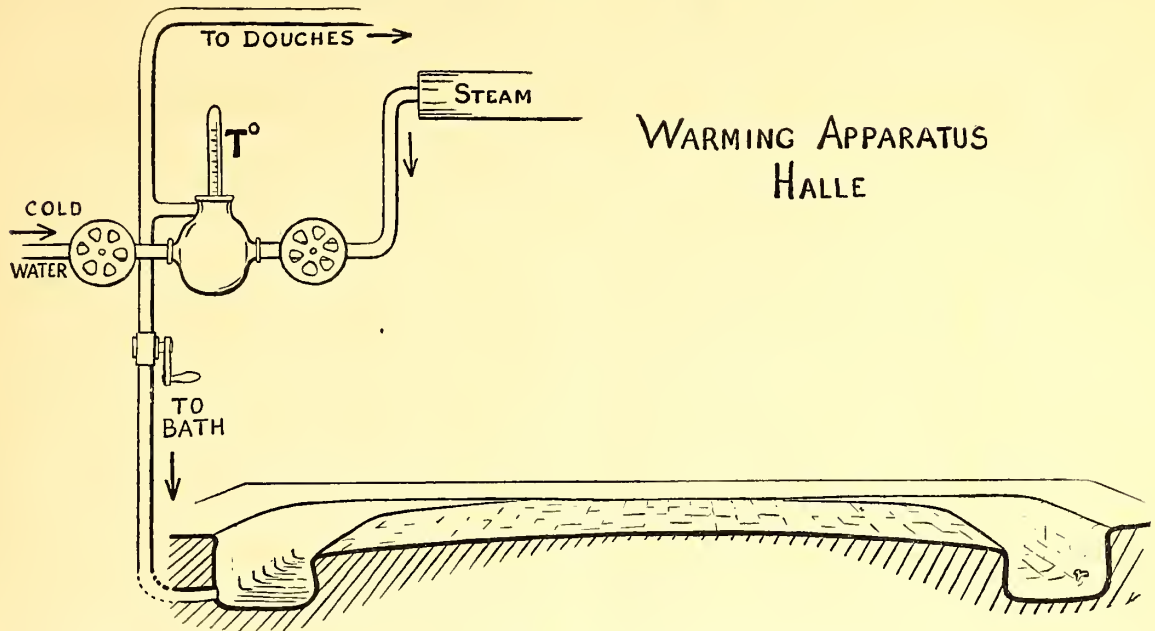


Fig. 4.

Friedenstrasse School.—A beautiful and roomy new school, opened last year for 600 boys and girls. Three hundred children from a poor neighbouring school come in here to the bath. The bath is already described above.

Thirty children bathe each time from 7 a.m. till 12; 150 daily before noon; none in the afternoons. The older girls wear bathing-dresses; and three to five children are withdrawn from each class of about 45 by medical orders.

The bathing goes on regularly all the year round, the poorer children bathing better than the better class girls, who give up using it as they grow up. There are separate baths in adjoining rooms for teachers' use.

Two-thirds of the elementary schools have baths, the rest are old schools whose construction did not admit of such installations. The children bathing are allowed as much liberty as possible within reasonable limits. School bathing is spoken of here as of as great public benefit as in the other German towns.

BERLIN.—204/213 *Gemeinde Schule*.—2,000 children. School floors oiled.

The bath placed in a basement which is not very well lighted.

This installation is ten years old. There are wooden partitions in the dressing room with pegs and seats. The bathroom has concrete floor. The bath troughs are four parallel sets 4 in. deep, 2 ft. by 12 ft., and divided up by one long central rail and transverse rails. The douche temperature is not varied. Three days weekly boys bathe, and three days girls. The three lowest classes are debarred, so that only about one-third of the children in the school bathe, twenty at a time, 100 daily. Blue mottled soap is provided. The children bring their own towels which are dried for them, boys do not wear loin cloths, girls bring their own caps. A few towels and caps are kept for those who come unprovided. The drying rooms are simply whitewashed cellars, with rows of long 16 in. pegs about 3 ft. high on which things to dry are hung.

228/279 *School*.—6 months old. The entrances have light grey tinted tiles to one metre height, granite steps, but the bath although fairly lighted is underground and the approach bad.

There are 1,850 children in the school.

The bath shows no improvement on the last school, which is ten years older. This was the only school where bath and dressing rooms were continuous. The dressing room has twelve boxes on each side. These boxes are 6 ft. high, 4½ in. clear of floor, 30 in. wide, and about 30 in. deep; the seat is 18 in. high and 14½ in. wide.

The bath room, 20 ft. wide, concreted, has two troughs 18 ft. by 2½ ft. and 7 in. deep, and on adjoining sides an iron rail is run ⅜ in. thick and 1¼ in. deep at a height of 15 in. from the floor. It appears unnecessary and possibly dangerous. The other arrangements are as in the last school.

Böttger School.—1,800 children. Like the previous school, this is about equal to recent London schools. The bath arrangements similar to last school, except that a cheaper brown cement has been used for the floor.

Berlin is disappointing. There is want of progress in the schools of the last decade, and the obvious striving after economy produces results which, compared with South Germany, give a mean impression, and must have an educational effect that is not good.

Sixty-two out of 283 schools have shower baths. No systematic information has been collected, but the results have been altogether good as regards both physical and mental conditions of the children.

Wuhlgarten Epileptic Colony.—1,300 people. The buildings here have cost £350,000, land £15,000, annual maintenance £45,000.

Here a swimming bath has been utilised by converting the swimming pool into a Brausebad, eighteen douches being fitted round; a rail also being fixed round the edge of the swimming pool, and steps down at each end. The dressing boxes being arranged round the upper part.

HANOVER.—*Bürgerschule* 21, built in 1890, has 400 boys and 400 girls, between 500 and 600 bathe weekly. The youngest classes debarred. Nothing is supplied, not even soap—they bring their own. Opposition comes only from the older girls.

The floor of bathroom is concrete, with dripping boards around trough.

13/14 *School*, built 1896; 800 boys, 800 girls, 1,200 bathe (66 per cent. girls, 87 per cent. boys). Two sets of baths for boys and girls respectively, exactly as in previous school. 120 children bathe daily in each; most bathe naked, but the older girls wear dresses.

63/64 *School* (about 400 children), built in 1902. Here the trough is in the bathroom floor, and is 6 by 20 ft. and 6 in. deep. Twenty bathe at a time; 70 to 80 daily.

61/62 *School* with trees in playground. The bath arrangements very similar to last, but bathroom very dark and no trough, simply sloped concrete floor with dripping boards. All kinds of douche turbines tried, but the simple rose-head found best.

There is no opposition, but the children are good class and mostly bathe at home. The older girls generally give up bathing. Most of the children wear no bathing clothes.

Hanover has apparently made no progress in the past ten years. The first bath is as good as the last, all are in cellars, imperfectly lighted, with concrete floors, and do not give the impression of cleanliness desirable.

COLOGNE.—In Cologne 4/5ths of the population are Catholics, and, as a rule, of the poorer classes. Special arrangements have been made to overcome the objections of Catholics to girls bathing. In some schools only the boys and Jewesses bathe. Twenty schools have been built in the last five years, and there are 48 "Wandering Classes" temporary schools.

Frankstrasse School, 1905.—A beautiful building, part of which is the Headmaster's house with a Public Library below it. The School cost £22 10s. per place.

The playgrounds with trees and bushes. The boys' department one wing, girls' the other. On entering the broad passages, wide stairs with granite steps and linoleum on the floors are at once noticeable. White creamy tiles to about 4½ ft.

The walls all painted white above this level. As in so many other schools, each classroom with small window to read thermometer from corridor without going into the room.

The lavatories have terazza floors, wash-down pedestal closets, with lift-up seats and white tiled sides; the white tiled walls were relieved by narrow bands of coloured tiles. All angles rounded. The bathing installation is only partly underground. The dressing-room has sets of boxes without curtains 5 ft. high, 30 in. wide, 30 in. deep, 2 in. clear of floor, with a seat 20 in. high and 11 in. broad, all facing in the same direction. The floor is wood blocks, except for linoleum in gangway.

COLOGNE

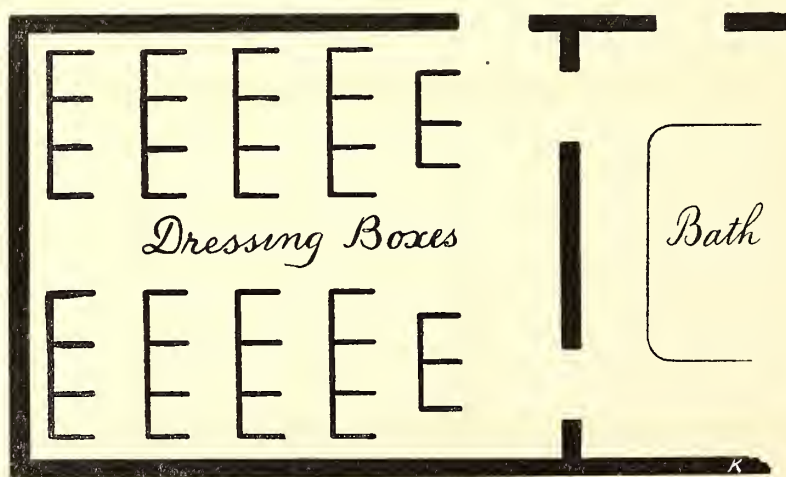


Fig. 5.

The bathroom is terazza floored, with two long troughs, with accurately curved closely fitted white tiles. These troughs, 4 ft. 6 in. from each other and the wall, are 46 in. across and 6 yards long, a foot in depth. They can be filled with hot water from beneath. Three tube douches run over each; beneath each window a hot water radiator is placed. This school has also an exceedingly well appointed cookery room and a shop attached.

The school gives the impression of a most tasteful and harmonious result without undue expenditure.

Zwirner Strasse School. A Catholic School opened in 1895, boys and girls, terazza floors. The drying apparatus an oven with rolling carriers, as in laundries. Here the bathroom has a system of cells, each of which is in two parts—an outer for final underclothing, and an inner for bathing.

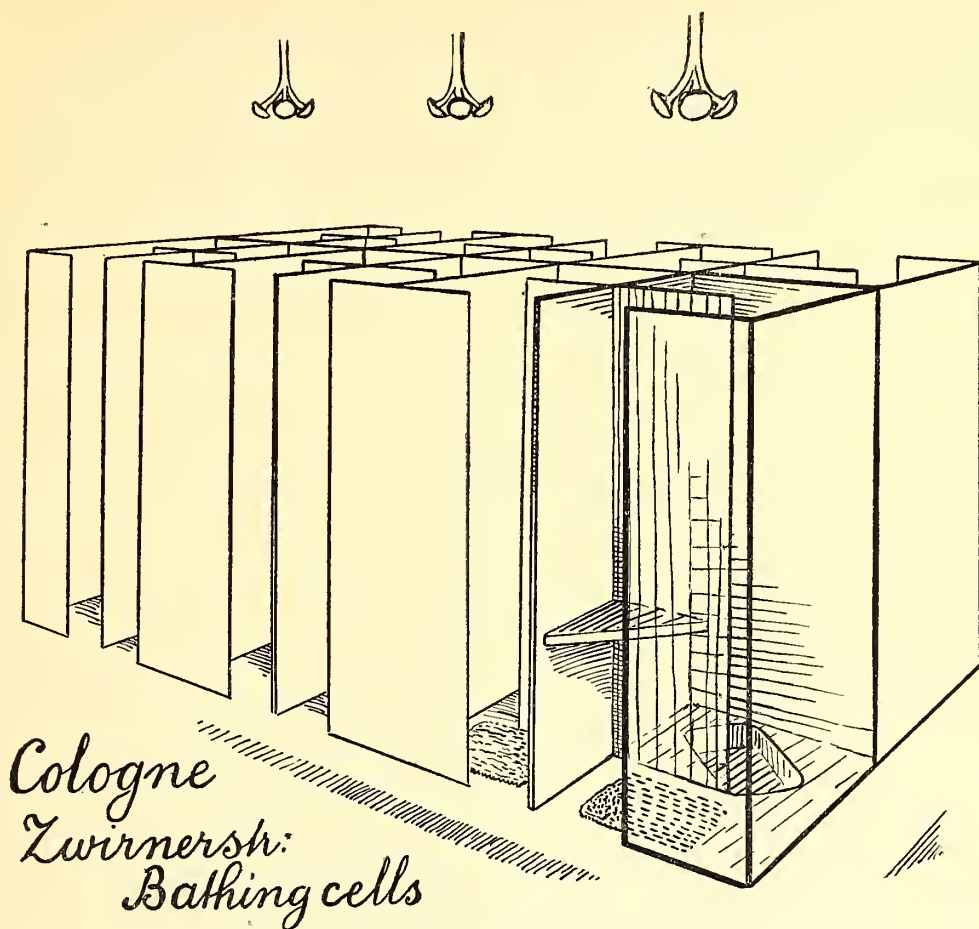


Fig. 6.

The divisions between the cells here are of corrugated iron.

Am Zugwey School, 1900.—The same system of cell, but 6 in. higher; 7 ft. below ground level.

Lindenburger Allee School, 1905.—The cells here 5 ft. high, and built of an iron and wire frame on which mortar is put, and white tiles accurately set. The dimensions were as on drawing.

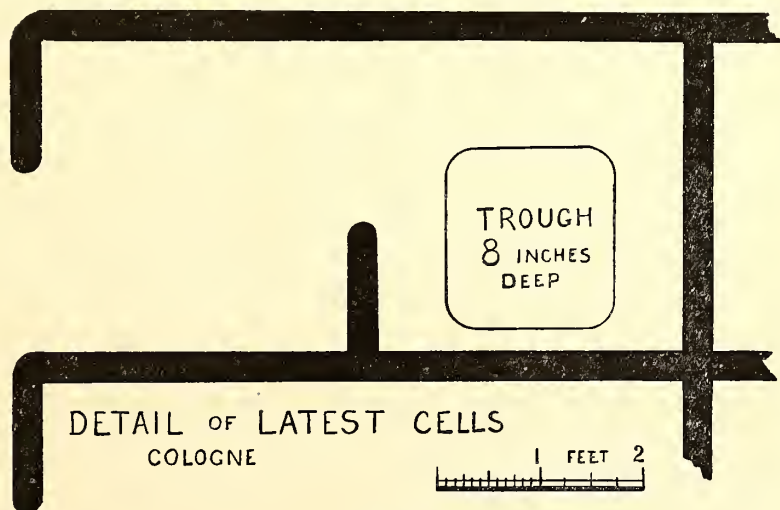


Fig. 7.

Mainzer Strasse School, 1905.—A beautiful boys' school. The bathing arrangements below the gymnasium, the two forming a separate building. No stairs down, just a sloping way, the floor a metre below ground level.

The bathroom white tiles 6 ft. up, doors 40 in. across. The four troughs white tiled and white tiles 2½ in. round edge, floor terazza.

COLOGNE
MAINZER STR.

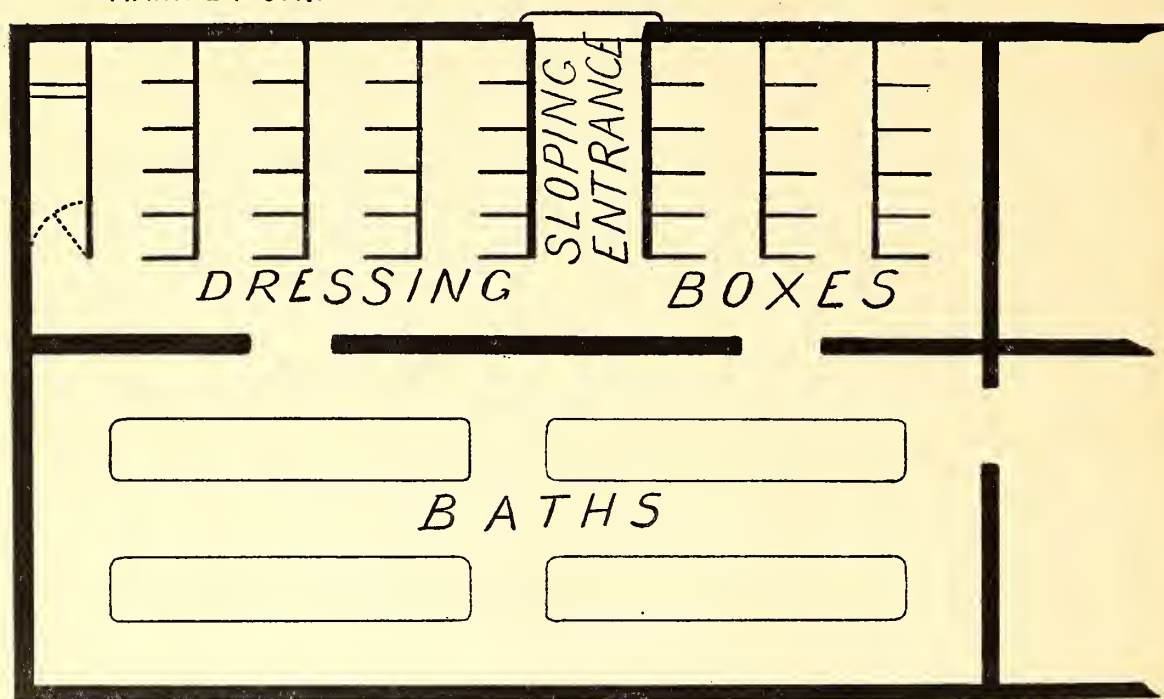


Fig. 8.

We were informed :—"The influence of school baths in promoting cleanliness is very marked, not only with regard to the condition of the body, but also of the clothes. An increase in the children's capacity for work has also been observed. The self-respect of the children has been raised, as they take a pride in the cleanly appearance of themselves and their school-fellows. The public are grateful for the introduction of school shower baths. The influence of the habits of cleanliness inculcated at school makes itself felt long after school life, and has also in many cases favourably affected the home life of the parents."

DUSSELDORF.—Stoffler Strasse School, 1905, for 1,000 children; cost, £23 10s. per school place. As beautiful as the Cologne School. Wide corridors tiled to 5 ft., and white cement finish above. Floors covered with linoleum which looks like terazza. Excellent cookery room. The bathing arrangements 8 ft. below ground, plenty of room, most capacious visited, windows both sides, all white tiled to 5 ft. 6 in., and white paint above. Six large square pillars carrying building in part of basement where bath is, are tiled round. Bath has two troughs, 6 in. deep at one end and 10 in. at other. Troughs, 3 ft. 6 in. apart and 5 ft. from walls, are 4 ft. broad and 25 ft. long. Flexible wood mats on floor, which is small rough hexagonal white tiles of ½ in. edge. Seven douches over each trough are about 4½ in. across. There is nothing provided, not even soap. The school is mechanically ventilated; 280 children bathe daily.

AMSTERDAM.—K1 No. 2 School.—An old school in the poorest part of the Jewish quarter of Amsterdam. Part of the gymnasium converted to shower bath about 15 years ago.

Water is heated by a geyser apparatus, this and the hot water cistern are fixed on beams about 10 feet above the floor.

The dressing room is simply provided with forms on which the children lay most of their clothes, the last garment is removed in the bathroom, and laid on a form in front of the bath. The douches are fixed in cells, of which there are six on each side of the room. All children bathe naked, only soft soap and towels provided. There is very little opposition to bathing. 140 children can bathe in a day.

Amsterdam School 48.

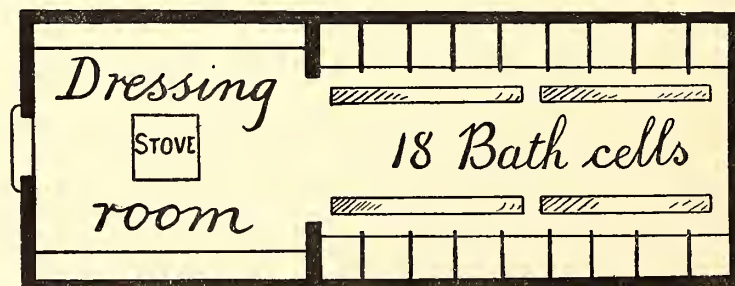


Fig. 9.

School No. 48.—300 children. The first bath installation in the town 1890. As in previous school, but 18 cells instead of 12. The douche temperature from 100 deg. Fahr. to cold water. 90 per cent. bathe, the children stand on cork mats in the cells and first are douched on the back. Headaches are sometimes caused in some children who remain too long in cold douche; douche at an angle of about 30 deg.

Amsterdam Centre

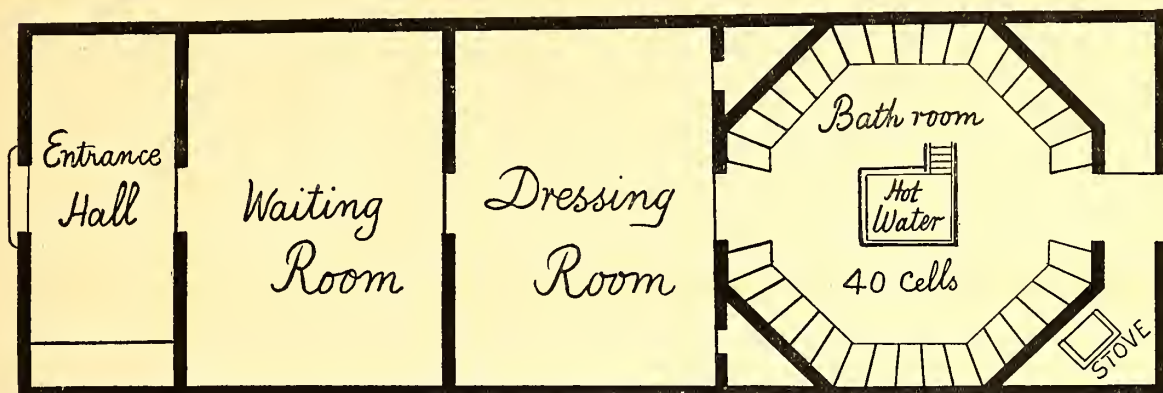


Fig. 10.

Frederik Hendrik Kinder Bad.—A bathing centre opened in 1901 to serve 22 schools. A similar centre being now erected. It is for 40 children. The arrangements are similar to the previous baths seen. There are two dressing rooms, and the children finally unclothe and lay last garment on a form in front of their cell. No children wear any bath clothes. Towels are given and soft soap provided; 1 lb. to 25 children. The towels are dried at a public laundry; 3,000 are stocked, as 400 to 500 children bathe daily.

The bathroom is octagonal with 40 cells; the floor tiled, cells with iron frames and cement walls painted dark grey and slate partitions. Cement is unsatisfactory and to be replaced by tiles. The reservoir of warm water and control apparatus is on a platform raised on beams in the centre of the room. The children stand on a cork slab laid on the tiles in the douching cell. Each child gets about 16 litres (four gallons) of water. Girls occasionally bring caps themselves.

The heating is done by quite a small stove, which requires about one ton of coal weekly for 2,400 baths.

The shower baths in Amsterdam schools are primitive but very efficiently worked. The schools themselves are inferior to German schools; the best and newest Amsterdam schools are about equal to a good medium German school in point of building, equipment, and playground. The children appear the cleanest in face and dress we have observed, even in poor districts; boys wear hair clipped short. All other shower baths are similarly equipped to those described. A second centre is about to be constructed, Amsterdam evidently favouring the centre system.

The Prinz Hendrik Centre was somewhat disappointing, the general idea being good, but the materials poor and badly arranged. The water reservoir, high in centre of douching room diminishes light, air and space.

APPENDIX II.

Extract from the Regulations for the Use of School Shower Baths in Mannheim.

PART I.—GENERAL.

No. 1.—School shower baths are only intended for the use of the school children. The bathing is carried on during the whole year, and is free of charge. The children of the four older schools which do not possess shower baths must bathe in the nearest school provided with a shower bath installation.

No. 2.—The headmaster of every school with a shower bath must draw up a special bathing time table, giving each child one bath per week. Care must be taken that the children remain at least half an hour in the school after taking a bath. The bathing time tables are to be hung up in the bathing-room and in the classrooms.

No. 3.—Bathing must take place from nine to eleven in the morning and from two to half-past three in the afternoon.

No. 4.—Bathing is not compulsory. The teachers are generally requested to call the attention

of the children to the hygienic advantages of regular bathing. In the cases of individual children whose conditions of health and home life seem to indicate the desirability of a regular care of the skin, it should be the duty of the headmaster to interview them personally and in a friendly manner with the object of inducing them to bathe. In necessary cases interviews with the parents are desirable. The interest which the teachers take in school bathing is of the greatest importance for the progress of this beneficial institution.

No. 5.—Only those children are allowed to bathe whose parents have signed a form declaring their willingness to allow them to bathe. (See further on.) A fresh form must be filled up by the parents for each new school year.

No. 6.—Children who are indisposed or ill, and children with various chronic infectious and other diseases, are not allowed to bathe.

No. 7.—Young children must be taken by the teachers to the dressing-room, and supervised during the whole time of dressing and undressing. In the case of the older children an occasional supervision only is sufficient.

No. 8.—Each class must keep a bathing register in which the bathing attendant notes the number of baths given to each class per week. On the last school day of every month all the bathing registers are to be submitted to the headmaster. The school doctor is also requested to inspect the bathing registers from time to time. Three times a year the headmaster must send in a report to the school authorities, showing clearly how many pupils have reported themselves for bathing, how many have actually bathed, and how many absences have occurred, together with the reasons for the same.

No. 9.—Children must be taught to hang up or lay their clothes down in an orderly manner. Contact between the clothes of children must be avoided. Boys must wear loin cloths, girls loin cloths and caps during bathing. Whenever possible, the dressing-room, after having been used by two bathing divisions, must be ventilated for ten minutes.

No. 10.—The temperature in the dressing and bathing-rooms must be about 70 degrees. The temperature of the warm water must not exceed 95 degrees.

No. 11.—Sufficient dry and clean bathing linen must be provided. Each child must receive:—

- (a) A clean dry loin cloth.
- (b) A clean dry towel.
- (c) A clean dry scrubbing cloth.

Girls must bring their own caps and the children are only allowed to use their own combs.

PART II.—SPECIAL BATHING INSTRUCTIONS.

No. 12.—Before the children enter the bathing room every bathing trough must contain a small amount of warm water (95 degrees). The first douche of water (95 degrees) is principally directed on to the neck and breast of the children, and only for about one and a-half to two minutes on the head. The children then sit down in the troughs and wash themselves with soap and the scrubbing cloth. The second douche (temperature about 75 degrees) lasts one minute. Special care must be taken to prevent the children avoiding the cooler douche, as this is one of the most effective measures against contracting a chill upon leaving the bathing-room. The children must be instructed to dry themselves thoroughly, comb their hair, and place the wet loin-cloths, towels, and scrubbing-cloths in baskets provided for the purpose.

No. 13.—The bathing must be conducted in a quiet manner and must occupy about 25 minutes.

No. 14.—Every precaution must be taken to prevent the children contracting a chill after bathing.

No. 15.—Bathing must take place at certain fixed times without any intervals except for the purpose of ventilation.

PART III.—SPECIAL DUTIES OF THE BATHING ATTENDANTS (MALE AND FEMALE).

No. 16.—The bathing attendants are responsible for the cleanliness and the thorough ventilation of the bathing rooms, for the scrubbing of the troughs after each division has bathed, for the suitable temperature of the bathing rooms and the water, for the washing condition and storage of the bathing linen and to some extent for discipline in the absence of teachers. They are requested to treat the children in a friendly manner and are not allowed under any conditions to exercise corporal punishment.

APPENDIX III.

Circular sent to parents of Elementary school children at Mannheim advocating use of shower bath.

For many years doctors, educationalists, and a large section of the public have recognised that the improvement of the health of school children is one of the most important duties of the school, and that therefore the provision of means for the care of the body must be considered as a part of Elementary school education.

The Municipal School Authority has therefore for many years taken special care to provide new schools with shower bath installations, and to regulate and supervise the use of the same by the issue of special bathing regulations.

The hygienic importance of a systematic care of the skin by means of regular bathing is generally recognised. The skin is not only the largest but also the most easily accessible organ of the human body. The action of the skin is closely connected with the normal action of all other organs of the body. For this reason the care of the skin promotes health in the highest degree and is most important for the healthy and thorough development of the body during the years of growth. The circulation of the blood, heart action, breathing, respiration, nutrition, and blood formation are stimulated by a regular care of the skin, and the body is hardened against external influences. Early habits of cleanliness promote love of order and are also capable of preventing in most cases the worst infectious diseases.

School baths are intended only for school children, are not compulsory, and are free of charge. The necessary bathing linen is given to each child free of charge excepting caps and combs. It is hoped that the parents are convinced of the importance of the care of the body, and that they will encourage their children to make use of the baths diligently and regularly. We therefore appeal to them to signify, by filling up the following form, their willingness to allow their children to use the school baths regularly:—

FORM.

The undersigned desires that the child _____,
Class _____, School Division _____, should use the school shower
baths regularly.

Mannheim, _____, 1906.

Signature of Parents _____

APPENDIX IV.

Additional Notes on School Buildings.

Certain other matters to which some reference may be made became obvious after visiting these schools.

"Dustless Oil."—For instance the floors of all classrooms are either oiled with dustless oil or laid with linoleum; the corridors are terazzo or linoleum. The dustless oil seems to give satisfactory results in Germany, a finger rubbed across the floor is not soiled. This application of oil to floors has been tried in London with unsatisfactory results. This was probably owing to the fact that it was not properly applied. The method common in Germany is as follows:—

The oil is first applied and allowed to soak in for about three weeks. Ordinary cotton oil is used. The floors are oiled four times a year. On these occasions they are first washed with soda to take the old oil off, then provided with a fresh coating which is allowed to soak in for eight days, then oiled again and left alone for another eight days before use.

Gymnasia.—A feature of all the schools visited was the magnificent gymnasia provided. These are to be found on the ground floors of the main school buildings, or in special buildings erected in the playground. The German elementary school gymnasium has no analogue in English schools as fixed apparatus is not used in our school work. In Germany, gymnastic exercises with fixed apparatus is commenced at the elementary schools, evidently with a view to preparing for the elasticity of body and the muscular development necessary for military service. These gymnasia are built in the most ample and artistic style and are fitted with the best of gymnastic apparatus.

For example, the gymnasium at the Blücher school at Wiesbaden cost £1,200; and at the Schiller school at Karlsruhe we found a splendid gymnasium provided with a grand piano.

Temperature.—Nearly every classroom has a small window forming a circular hole or oblong slit extending between it and the corridor with a thermometer let in, so that the attendant can read the room temperature from outside without entering the room. Probably the extremes of continental climate necessitate this more than in England.

Cloakrooms.—No cloakrooms were provided in most of the schools we visited. Hats and coats are hung up in the passage, and cases of theft are extremely rare. Movable clothes racks are also sometimes provided.

Cookery-rooms.—There are kitchens used solely by the girls of the schools, which in point of size and equipment surpass any to be found at the London cookery centres. Some school kitchens are even provided with a small model shop in the corner of the room where the girls make their purchases before commencing to cook.

Drinking Water.—Drinking water is liberally supplied. Some most elaborate drinking fountains have been seen, and in one school provision of drinking water is made for each classroom. At the Schiller school, Karlsruhe, drinking fountains are provided at the end of each corridor. A block of sandstone about three feet high and about three feet in diameter, octagonal in shape, is provided. In the middle of this block a slight depression has been hollowed out, and a little jet of water is continually playing for drinking purposes.

School Gardens.—School gardens are general. Almost all the playgrounds are provided with trees, and in many cases shrubs along the wall. At the Fluhrschule in Munich there is a large stretch of turf in the playground, botanical gardens along the wall, specimens of Bavarian trees, a fountain, a rockery with minerals and bearing mountain plants, various special botanical plots, kitchen gardens kept by girls learning cookery, and a small open cement tank for the growth of mosses and water plants. The playground also contains a tan pit 4 yards square with spring board and jumping bar, and a platform 8 ft. high for jumping exercises.

The use of white or grey glazed tiles, supplemented by green or blue for purposes of decoration, is general in the newest class of German schools, the walls being tiled to about five feet from the floor, and sandstone, granite, and marble pillars are frequently met with.

In many cases the classroom doors are provided with a measured line about $5\frac{1}{2}$ feet high. Each child in the class is measured and then placed at a desk corresponding to its height and marked as being suitable for a child of such a size.

The whole style of the buildings in the newest class of German schools, and the arrangement of stairs and corridors, are better than in London. Wide and spacious stairs—no mezzanine rooms or low ceiled passages or stairs—wide corridors, and the most liberal finish of details and decorations are everywhere to be seen. The decorations were of a high order, although in some cases over-elaborate and of inferior taste. At Karlsruhe an attempt had been made to convey useful information in the decorations on the doorways and parts of the ceilings and walls.

It was evident that expense had not been spared in obtaining the best materials and results.

In each town the schools visited were, generally, one of the oldest (15 to 25 years old), a moderately old one (8 to 15 years old), and a new one built within the last seven or eight years. Out of a total of thirty-five schools visited the buildings of those given in the following list are better than any corresponding schools in London:—

Wiesbaden	. Blücher Schule.	Halle	. . Thor Strasse Schule.
Frankfurt	. Comenius Schule.	"	. . Frieden Strasse Schule.
Mannheim	. Wohlgelegen Schule.	Cologne	. . Frank Strasse Schule.
Karlsruhe	. Schiller Schule.	"	. . Mainzer Strasse Schule.
Munich	. Fluhr Schule.	"	. . Lindenburger Allee Schule.
Munich	. Elizabeth Schule.	Düsseldorf	. . Stoffler Strasse Schule.
Nuremberg	. Bismarck Schule.		

A condensed quotation from a speech made by the Town Architect at Cologne, where twenty schools have been built in the last five years, expresses the opinions prevailing in Germany respecting the requirements for the newest elementary schools.

"In the architecture of a modern town, school buildings stand in the van, as they represent the measure of the civilisation of the town and the progress made towards ideal conditions. In times of economical and national depression, school buildings have been sadly neglected. New schools must be solidly, artistically, and hygienically constructed, must be provided with school kitchens, shower baths, school gardens, reading rooms, art rooms, gymnasia, good playgrounds, and everything else that is necessary. Great care must be paid to interior finish, and whilst avoiding all decoration of a spurious and unnecessary nature, every effort must be made to awaken the sense of beauty in children by artistic forms and colouring."

The population of Cologne is 400,000. In 1904 its expenditure for new buildings and sites amounted to £66,000, and to £14,000 for maintenance and repairs. It may be also mentioned that although places have to be found for an increase of 1,400 children every year, the number of children per class has been steadily diminished since 1833, when it was 81 per class, down to 51 per class at the present time.

The remarks of the Architect are fairly typical of opinion in Germany. The Germans are increasing instead of reducing their expenditure for school buildings. As more than nine-tenths of the nation receive their first instruction in elementary schools the buildings for this purpose must be commensurate with the extent and dignity of the task allotted to them. They avoid

cheap buildings, just attaining the official minimum of space, light, and so forth, the use of inferior materials or constructions wanting in architectural beauty and artistic finish.

This policy in Germany with regard to elementary school buildings seems to have arisen within the last eight or nine years. Previous to this money was freely expended for Technical Universities, agricultural, veterinary and mining institutes; then attention was given to the ordinary technical schools; now the turn of secondary and elementary schools has arrived, and attention to style, equipment and detail, and the same liberal expenditure is being shown in their case.

As Germany consists of some twenty-six states, independent in the management of their educational affairs, more progress is made by some than by others, and even within the confines of the larger states differences are to be found. Cologne, Düsseldorf, Frankfort-on-the-Main, Wiesbaden, Mannheim, Karlsruhe, Nuremberg, Munich, Halle, have made remarkable progress. Berlin is inferior to these towns with regard to the newest elementary schools, expenditure there having been kept low, and its new schools are behind other German towns. The new Hanover schools are also below the level of Cologne, Halle, and the south German towns.

Our recent London schools are about equal to the schools built in the more progressive towns in Germany about eight to twelve years ago. They are not equal to the newest German elementary schools. Immediately after returning from Germany, six of the best London elementary schools were visited and this opinion confirmed, a general impression of want of room, meanness in decoration and lack of æsthetic considerations being conveyed by the schools visited.

Schools

Town.	Name of School.	Boys or Girls.	No. of Children.	Capacity of Bath.	Daily use of Bath.	Materials Provided.	Beginning and end Temp. of Douche.
WIESBADEN ...	Blücher ...	B.	...	32	...	Soap, towels, brushes	Lowest, 24° Cels. in summer, 18° Cels. in winter
MANNHEIM ...	K. 5 ...	B. & G.	3,000	Three installations in separate sets of 18—54	...	Soap, loin-cloths, towels, little rubbing-cloths (6 in. square)	35° Cels.
Do. ...	Wohlgelegen ...	B. & G.	1,500	36 to 42	...	Soap, loin-cloths, towels, 2 ft. x 3 ft. rubbing-cloths.	36° Cels. to 26° Cels.
FRANKFORT ...	Karmeliter Schule	B. & G.	1,200	60	Average 150	Soap and brushes	28° Cels. to 15° Cels.
Do. ...	Comenius ...	B. & G.	?	60	Average 150	Soap, brushes	28° Cels. to 15° Cels. or 16° Cels.
KARLSRUHE ...	Lidell ...	500 B.	500	36 hourly	80 to 100	Soap, towels, loin-cloths	35° Cels. to 18° Cels.
Do. ...	Carl Wilhelm ...	B. & G.	1,300	16	200	...	Down to 18° Cels.
Do. ...	Schiller ...	B. & G.	1,300	32	200	Soft-soap, towels, loin-cloths	35° Cels. to 18° Cels., quite cold
MUNICH ...	Fluhr Schule ...	B. & G.	1,400	60	200 daily	Soap, towels, bathing clothes: armless gowns for elder girls, loin-cloths for smaller	35° Cels. to 20° Cels.
Do. ...	Worth Schule (1890)	B. & G.	2,000 1,500 bathe	30 Two classes = 60 hourly	300 daily	Soap, dresses, towels, caps	As above
Do. ...	Elizabeth (1902)	...	1,200 900 bathe	40 to 60	200 children	Soap, towels, armless-gowns	As above
NUREMBERG ...	Bismarck (1904)	B. & G.	1,800 1,200 bathe	40	200 to 400	Towels only	38° Cels. to 20° Cels.
Do. ...	Melanchthon (1900)	B. & G.	1,800 700—800 bathe	60	300	Caps and towels. Bring own soap	38° Cels. to 18° or 15° Cels.
HALLE ...	Friedenstrasse ...	B. & G.	600—300 in neighbouring Volksschule	30 to 35	150	...	38° Cels. to 18° Cels.
Do. ...	Thorstrasse ...	...	...	30 to 35	150 or 160 daily	Caps, towels, soap, loin-bathing cloths	38° Cels. to 18° Cels.

Visited.

General Results of Baths.	Children withdrawn, and why.	Objections to Baths.	General Remarks.
...	Two lowest classes are not bathed.	Catholic Clergy on score of morality and some parents who objected to bathing in winter.	Boys bathe naked, hair kept very short, boys' heads quite dry on leaving; girls wear caps and loin cloths in girls' schools of Wiesbaden. Each child bathed once weekly.
50% bath at home, owing to workers having baths. Half are Catholics	Girls bring their own caps.	Old installation of large circular zinc tubs.	Three children to each bath, bathe only during school hours and all children kept in building one hour after bath.
Very good. Clothes cleaner, air cleaner, hygienic.	Voluntary system $\frac{9.20}{1.500}$ bathe in first year, much depends on teacher.	No difficulties. Extensive advertisement of benefits of baths to skin &c. in newspapers and circulars to parents.	A single bath, 10 ft. by 12 ft., about 1 ft. deep, four rows of tubes with diverging sprays.—Teachers attend and supervise bath attendant.
Satisfactory in all ways. Improved health, air, and underclothing	Very few and at first only. All children under 7.	No objections. Older girls bathe according to their choice (over 12).	Girls make their own bathing gowns in Domestic Centres. Children eager to bathe. Some with costumes, many without. Tube douche. Children bring their own drawers and towels.
...	...	A few objections which were met by provision for older girls of separate dressing and douche boxes, 6 at end of each room; douching partitions—thickly enamelled iron.	School cost £45,000. School not yet all in use.
...	Lowest class exempt $\frac{1}{5}$ bathe. Withdrawn on doctor's certificate only. No difficulties.	Fewer baths in winter, and in very cold weather stopped altogether.	First school bath in Karlsruhe. Class in four parts every hour (= 36) during German literature lesson. Towels simply dried on pipes. Water heated by gas on ground floor, level with other rooms. No bathing during last hour of school.
...	Bathe always—hot or cold weather.	Half the children bring own bathing materials.	Two-thirds of children bathe.
...	Lowest class debarred	Towels merely hung up to dry.	During very cold weather fewer baths. Magnificent school, oiled floors. Bath consists of two large troughs.
Improved air, clothes; improved working capacity; less vermin. Very good	No children debarred...	Great difficulties with parents (Catholics) and much tact necessary.	15 % less bathe in winter (good class people). Teachers only for discipline. Woman attendant for both girls' and boys' bath. Semi-basement. Marble walls to 6 ft. high in bathing room. Bathing during school hours, except last half hour.
Very good	No diminution in winter.	Practically no objections. Poorer class children.	Practically as above, but smaller and with inferior material. Wooden partitions in undressing-room, with sheets in front. Hours, 8 to 11 and 2 to 4. 19 cells and 20 bench undressing places. Basement. Drying and washing rooms.
As above	...	...	Marble division in bathing-place, but no marble in walls. Semi-basement. Dressing-room, 36 ft. by 31 ft. 8 separate cells and 3 long troughs.
Favourable	No children debarred...	No diminution in winter...	Waste hot-air from boilers used to dry towels (All varieties in Nuremberg from early systems with zinc troughs to present school.) In semi-basement, large trough, 19 ft. by 7½ ft., 40 ins. deep, with artistic green tiles. Douche room, white glazed tiles throughout, splendidly lighted. No dressing boxes, both rooms very large. Archway between two Apparatus dries towels in half-an-hour.
Favourable	No children debarred...	Drying apparatus similar to above. Lack of interest of teachers.	Well-lighted, white-tiled room. Linoleum floor, been in use 6 years, only renewed around edges of trough. Ten separate marble cells with small troughs and douches for elder girls. 63 bench places for undressing, with high backs and hooks. Archway between rooms. Children only bathe two days a week.
...	Poorer children of neighbouring Volkshule (300) come here too, but two top class girls of this school send very few girls.	No diminution in winter...	Two baths for teachers (M. and F.).
...	Only children over 9...	No diminution in winter...	Square trough with trough round, 14 inches deep outer, 7 inches inner, and about 14 inches wide. Floors "Torpit."

Town.	Name of School.	Boys or Girls.	No. of Children.	Capacity of Bath.	Daily use of Bath.	Materials Provided.	Beginning and end Temp. of Douche.
BERLIN	... Gemeinde Schule 204 & 213	B. & G.	2,000 600 bathe	20	100	Soap, towels, caps Girls bring own bathing clothes. Boys generally without	35° Cels., about Temperature constant
Do.	... Gemeinde Schule 6 months old 228 & 279	...	1,800 500 or 600 bathe	20	...	Soap. Children bring caps, towels, and garments, which are dried for them	38° Cels. to 33° Cels.
Do.	... Böttcher Strasse	B. & G.	1,800	As above	As above	As above	As above
HANOVER	... Burger Schule 1 & 2	B. & G.	800 500—600 bathe	12 to 15	80 to 100	None	...
Do.	... 13 & 14 B. S. ...	B. & G.	1,600 2 sets of baths, girls and boys respectively	20	100 to 120	None	34° Cels. to 15° Cels.
Do.	... 63 & 64 B. S. ...	B. & G.	800	120	80	...	...
Do.	... 61 & 62 B. S. ...	G.	As 800 650 bathe	above as 20 to 25	regards baths. ...	One installation Children bring everything	...
COLOGNE	... Frank Strasse ...	B. & G.	900 together	28	Up to 130. Used by other Schools, up to 200 per day	Towels and drawers	35° Cels. to 25° Cels.
Do.	... Zwirner Strasse	B. & G.	...	24	Not noted	Do.	Do.
Do.	... Mainzer Strasse	B. & G.	800 ?	...	Not noted	Do.	...
Do.	... Am Zugweg ...	B. & G.	1,000	...	1,200 weekly	Towels and caps	...
Do.	... Lindenburger Allée	B. & G.	700	28	...	...	...
DUSSELDORF	... Stoffler Strasse	B. & G.	700	72	280	None.	28° Cels., raised to 40° Cels., then down to 35° Cels.
AMSTERDAM	... Primary School, No. 2	B. & G.	270	12 douches. 24 dressing cells 140 in one day	2 to 12 hourly. Only used one day a week. For this School only	Soap, towels	95° F. Cold tap water
Do.	... Primary School, No. 48	B. & G.	300	18 at a time	90% bathe	Towels and soft-soap	Do.
Do.	... Frederik Hendrik Centre	B. & G.	...	40 at a time	500 daily. 2,300 to 2,400 weekly.	Soft-soap	Do.

	Children withdrawn, and why.	Objections to Baths.	General Remarks.
	Free lower classes de- barred.	None	Built 1895. Solid, imposing red brick build- ing; interior equipment, medium; wooden partitions in undressing rooms. Twenty divisions, two drying-rooms, pegs on wall 16 ins. long, and cross-bars near roof. Base- ment bath, four troughs, in concrete.
Favourable	Under 10 debarred ...	... ..	Basement. This school, although new, was inferior in style and equipment to other schools hitherto seen. Evidently from economical reasons drying-room a mere white-washed barn. Poor access. No ad- vance on above school, built 10 years previously.
...	... ..	... ..	Only partly in use, same as last, no figures obtainable. Darker floor cement than in last school, but only impresses one as some- what cheaper than previous schools.
Good	Youngest class de- barred.	None in regard to boys, only elder girls' parents oppose. Elder girls give up in winter.	Few of girls in upper classes bathe. Girls bring caps, but wear nothing else. Boys wear nothing at all.
Very good	... ..	No opposition	Nothing worn by boys or girls, except bathing gown brought by elder girls. $\frac{3}{4}$ boys, $\frac{2}{3}$ girls bathe.
Children exceed- ingly clean	Lowest class debarred	Some objections from girls' parents. Good class chil- dren bathe much at home.	Teachers use some pressure. Boys wear loin cloths, girls also wear bath clothes.
Good	Lowest class debarred	No difficulties on part of parents.	Costumes worn, but majority naked. No troughs. Turbine douches were tried; not satisfactory.
Excellent	Only boys and Jew- esses bathe. 450 boys, 3 upper classes only bathe. $\frac{4}{5}$ bathe. No diminution in winter.	Catholic girls withdrawn, as no provision for separ- ate cells.	Built 1905. Girls wear bathing gowns. 4 laundry rolling carriers for drying. (Semi- basement.) White tiled walls in bathrooms to 5 ft. 6 ins. rounded angles.
Do.	No children (except lowest class) with- drawn.	None... ..	Built 1895. Cell system. Full basement, terrazzo floors, corrugated iron cell divisions.
Do.	Lowest class excluded. All other boys bathe.	None to boys bathing. Catholic girls withdrawn generally.	Built 1905. (Only 2 ft. below ground—well lighted). Under gymnasium, very capacious, double installation, tiled walls. Only boys bathe, as there are no cells. Detached from school, but hot pipes from school under playground.
Very good	Two lowest classes de- barred. All bathable bathed.	No objections	Built 1900. Same cell system as Zwirner Strasse, but division 1 ft. higher. Used as a centre for other schools. Laundry drying apparatus. All children bathe.
...	... ..	No objections	Built 1905. Cell system, iron framework cemented and tiled, and smaller troughs. 28 cells and dressing-rooms (not yet in use). Washing and small drying-rooms.
...	More bathe in winter than summer (bathe in Rhine).	Children under 9 forbidden, some exceptions made.	Built 1905. Not quite all in use yet. Serves as bathing centre for 3 or 4 surrounding schools. Wear drawers, loin cloths, or gowns. Housekeeper attends baths, extra pay a shilling daily. $\frac{4}{5}$ of eligible children bathe.
Very good	Three lowest classes debarred. Very few withdrawn, and only on medical certificate.	Very few objections ...	Half of gymnasium shut up by folding to form undressing rooms. Boys girls, p.m. Fifteen years' old in geyser, cork slabs, oblique d children bathe quite naked. cells opposite each other. sion. No caps worn. T laundry. Poor Jewish dist
Excellent	Children of 5 and 6 debarred.	Older girls relax in attend- ance. No diminution in winter. Few parents ob- jected, but convinced after teacher's demonstration.	Geysers. Two rows of cell dren undress to shirt or c proceed to douche room, on bench in front of d hind. Bathe naked, no Teachers supervise all.
Excellent	Man and wife give whole time. Young children under 8 not received on account of trouble with dress- ing.	No objections	One ton of coke wheel rooms. Two undressing hat; and 2. underclo shirts on forms in fro all naked, not even baths. Caps if they A similar centre to Walls here to be

